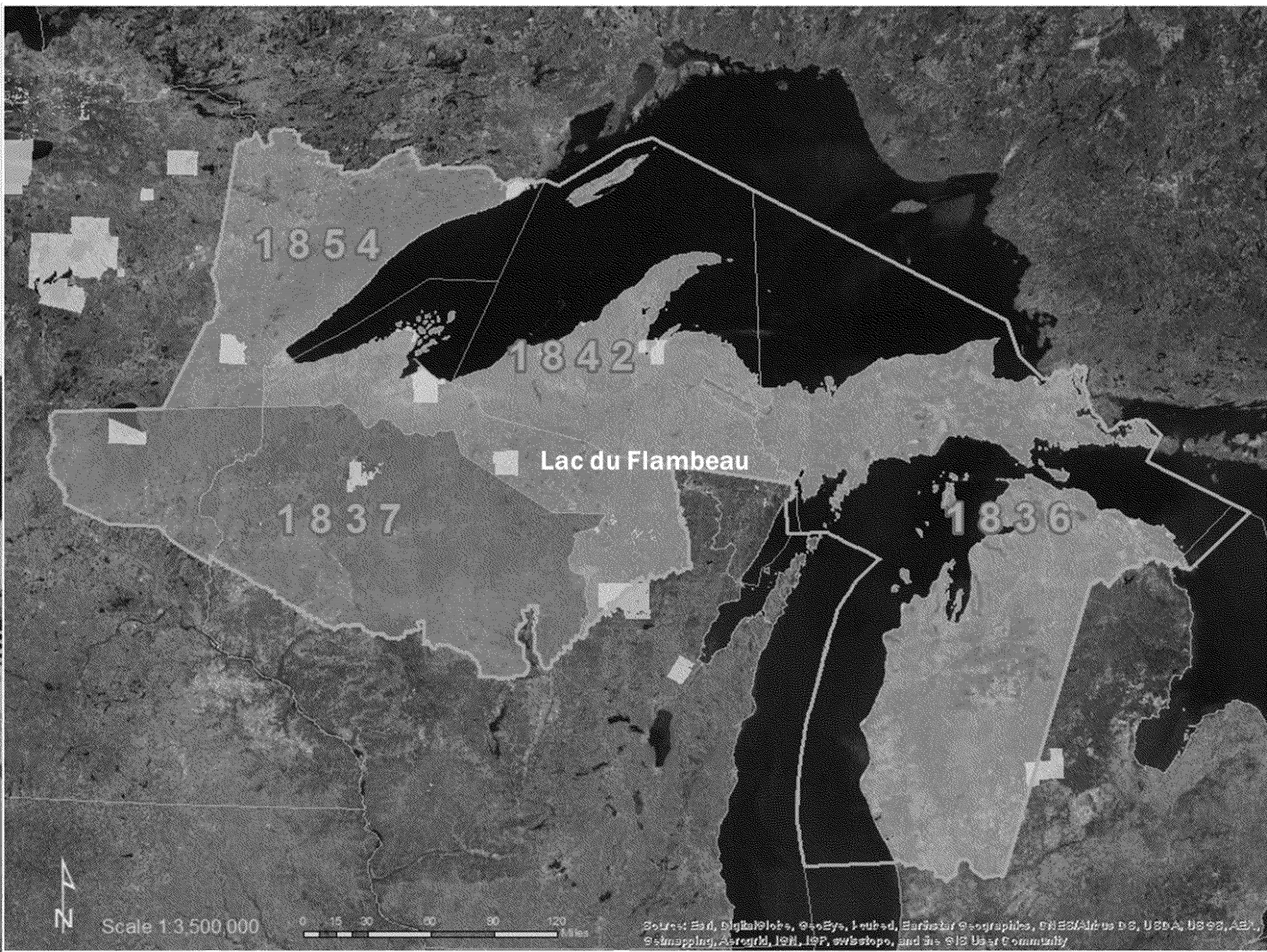


Haskell Lake Area Petroleum Contamination- Current Site Conditions

May 19, 2016
Lac du Flambeau Tribal Natural Resource Department



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Haskell Lake Area

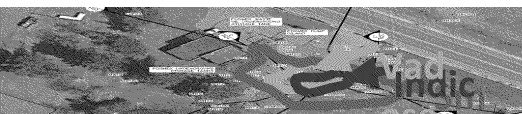


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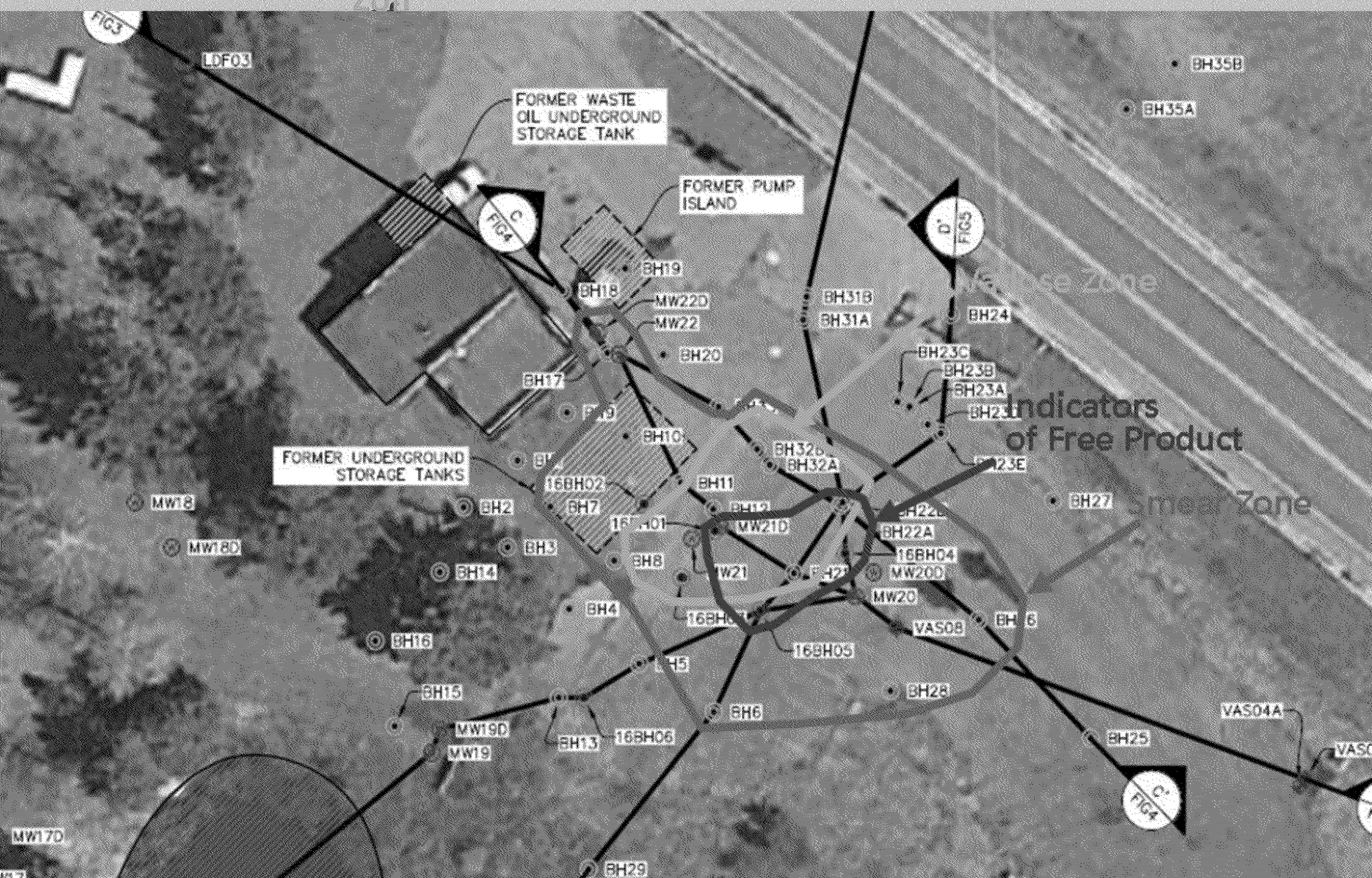
1st Discovery



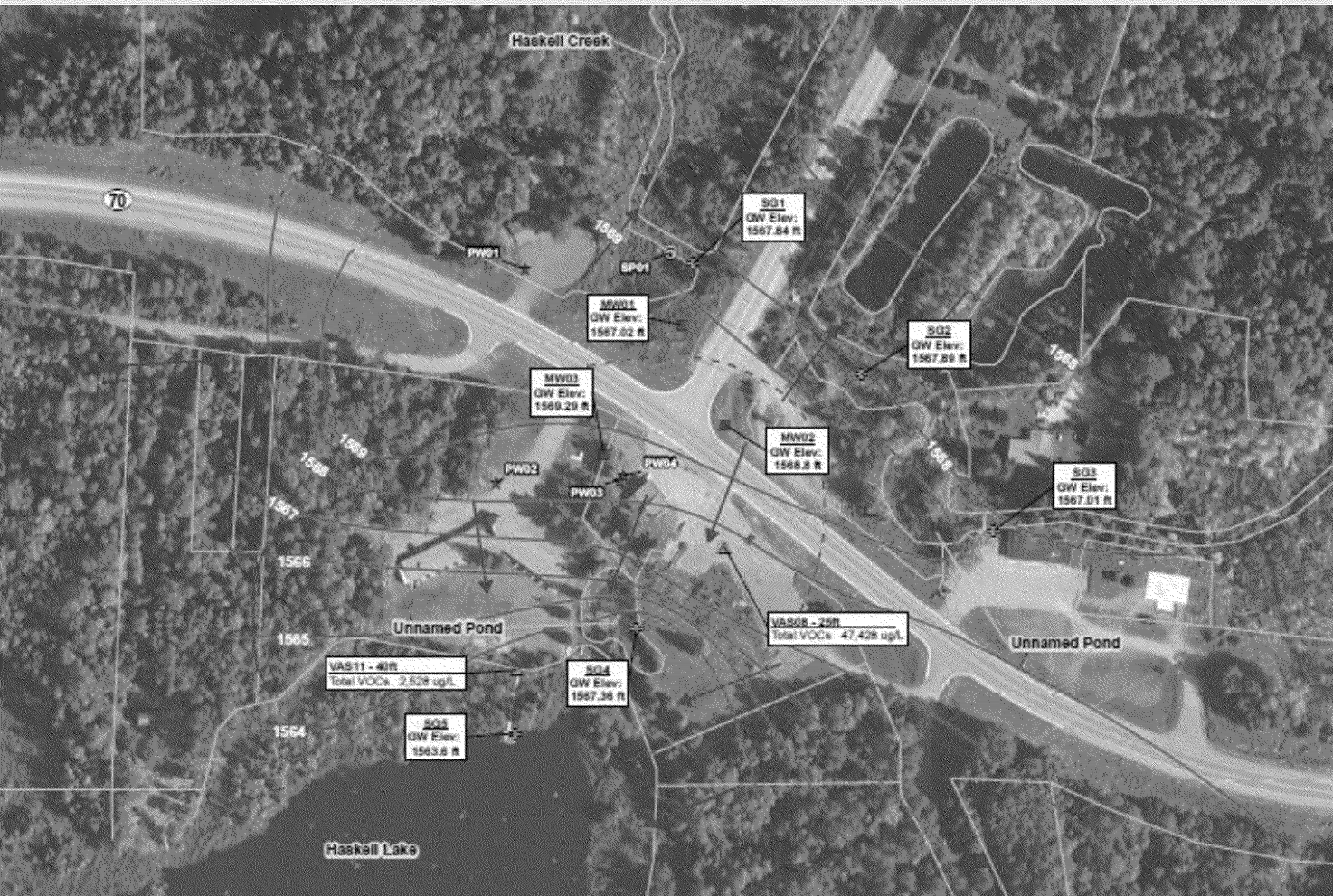
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Vadose Zone, Smear Zone, and Indicators of Free Product



Area Groundwater Flow



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LEGEND

- VERTICAL AXIS
- MONITORING POINT
- SOIL BORING
- POTABLE WATER
- UTILITY POLE
- CURB INLET
- STAFF GAUGE
- SHALLOW POTENTIOMETRIC SURFACE
- SHALLOW/DRAINAGE
- VERTICAL HYDRAULIC GRADIENT (UP/DOWN)
- SURFACE WATER ELEVATION
- NOT MEASURED; CONTOUR
- WILL VARY

Source: Weston's 2016 Figure 2: Hydraulic Gradient Map

WESTON SOLUTIONS

2501 Jolly Road
Suite 100
Okemos, Michigan 48864

SHALLOW POTENTIOMETRIC SURFACE
HYDRAULIC GRADIENTS 10-17 N
HASKELL LAKE AREA



WESTON
SOLUTIONS

SHALLOW POTENTIOMETRIC SURFACE
HYDRAULIC GRADIENTS 10-17 N
HASKELL LAKE AR

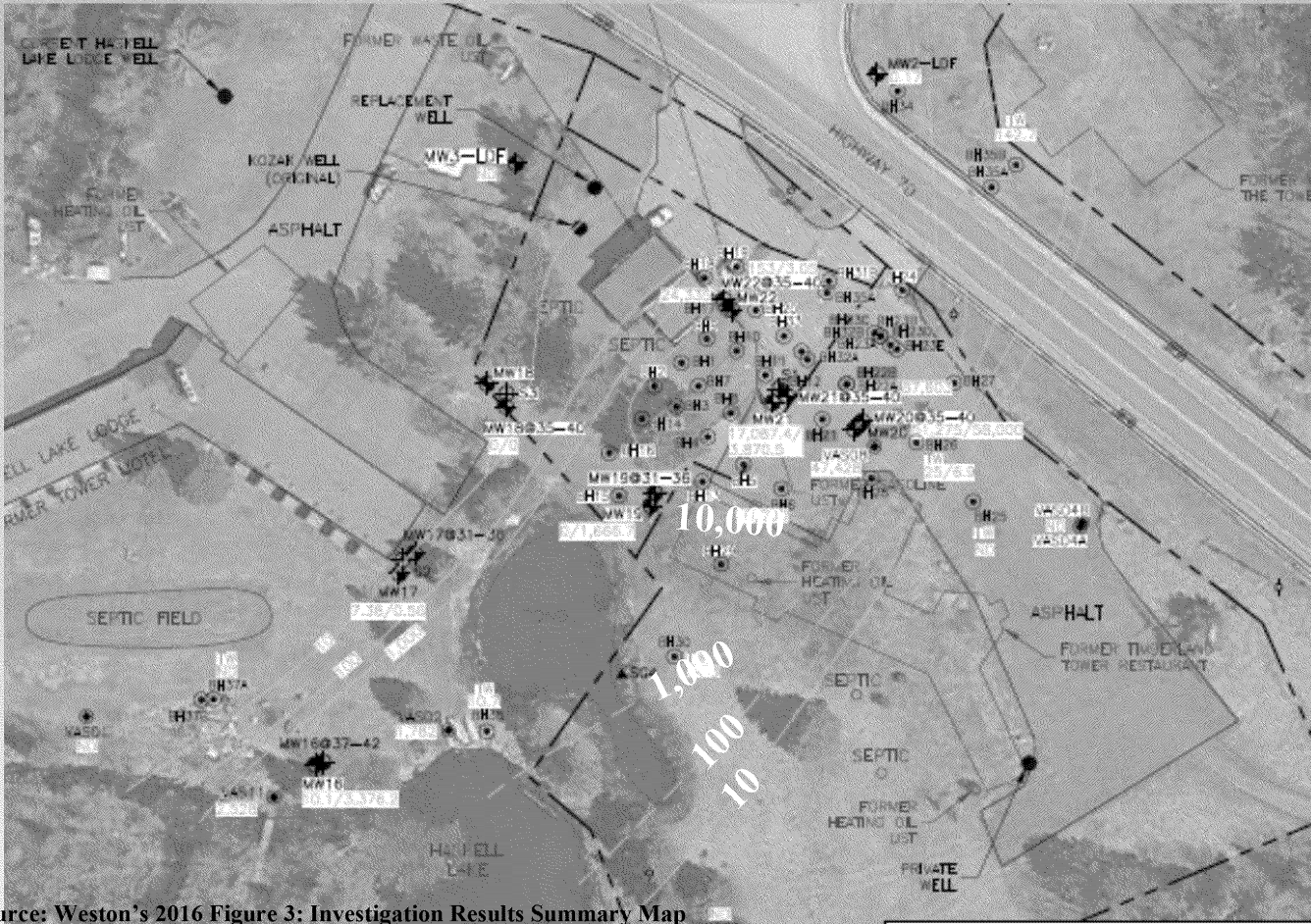
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Groundwater



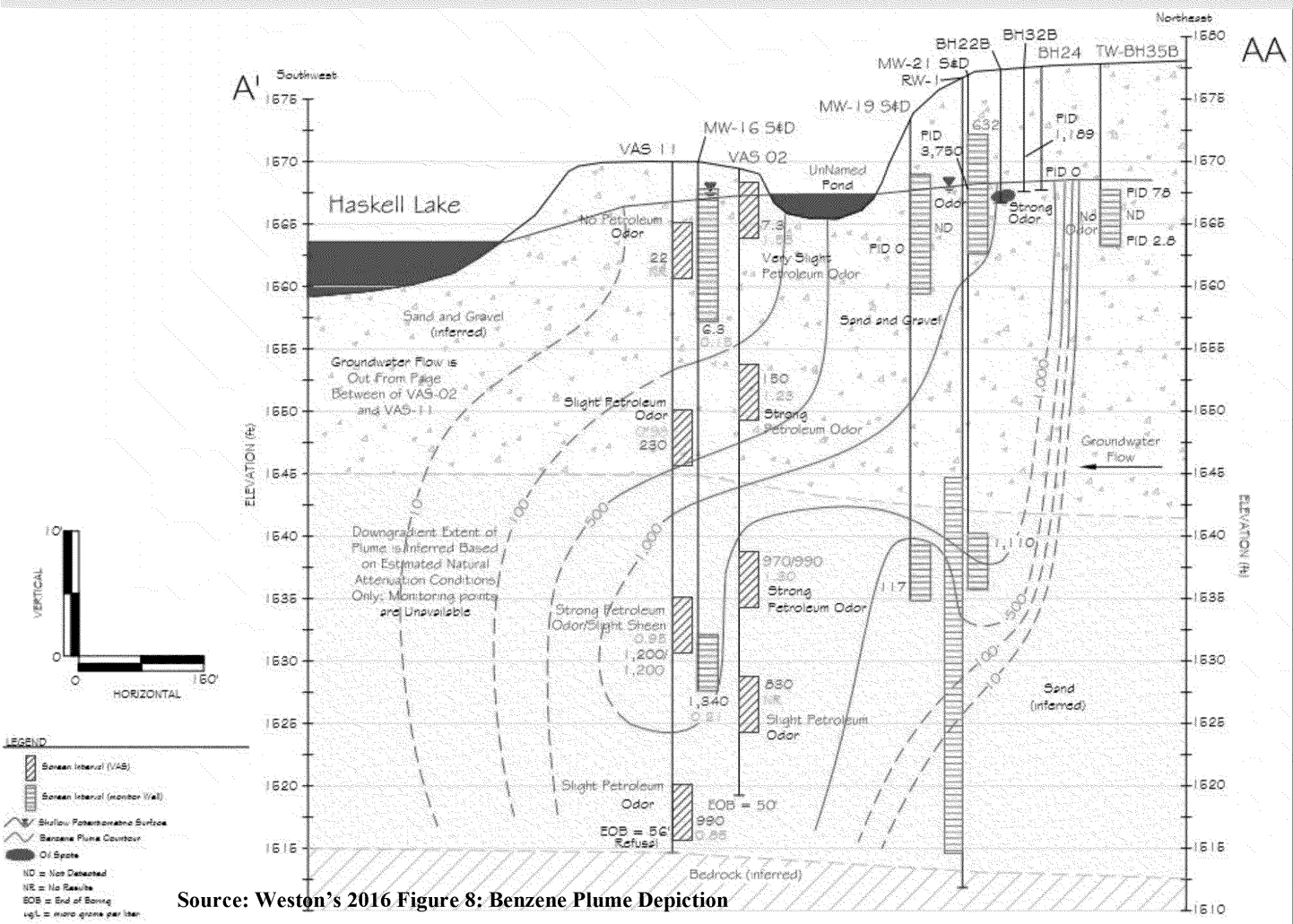
Estimated Extent of Groundwater Contamination

Total VOCs Isocontours in ug/L



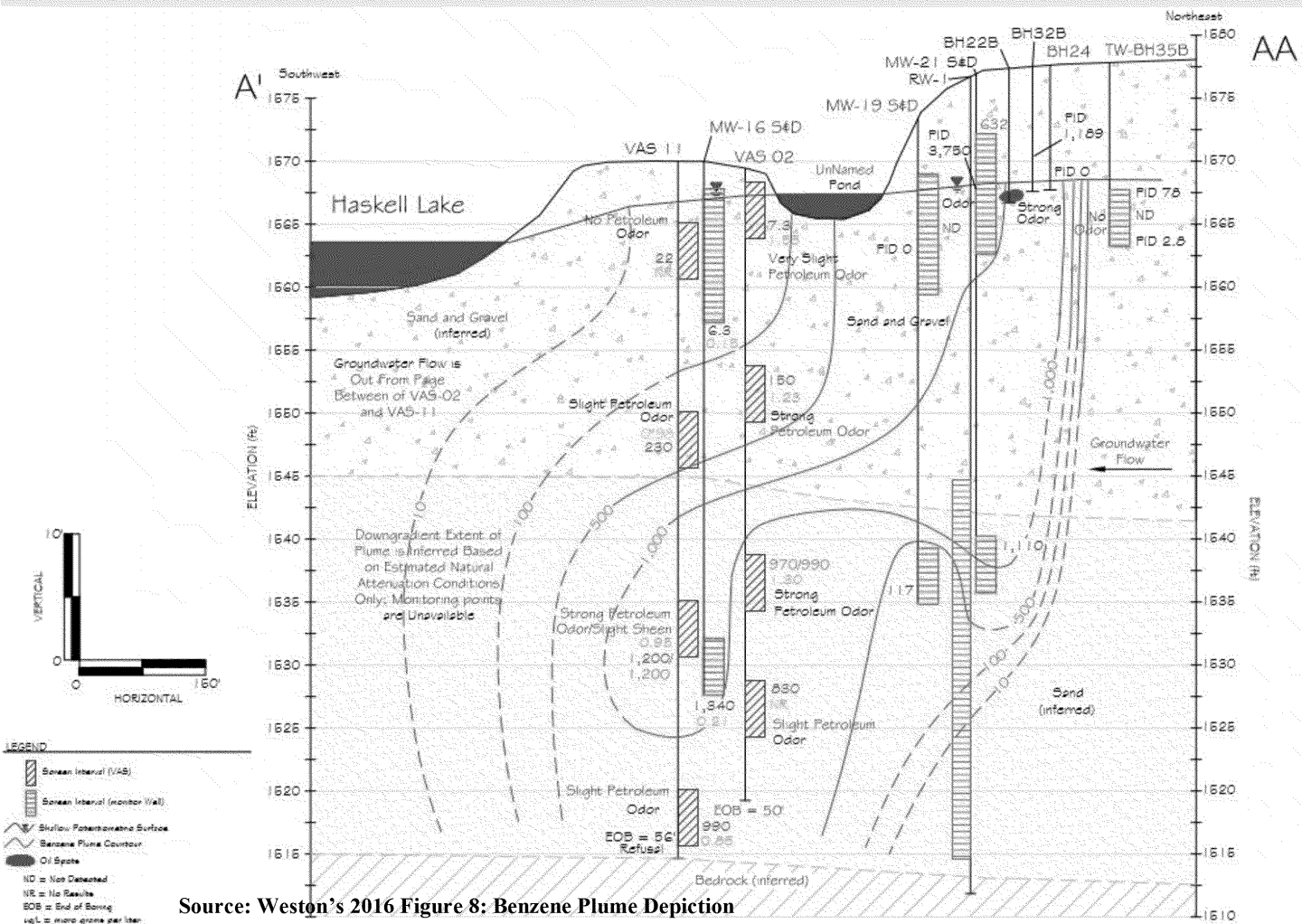
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Estimated Extent of Groundwater Contamination





Estimated Extent of Groundwater Contamination



EPA-R5-2017-010506 0005732

Environmental Response Program

| SITE INVESTIGATION REQUIREMENTS

Purpose

Ensure that site investigations provide the information necessary to define the nature, degree and extent of contamination, define the source or sources of contamination, determine whether any interim actions, remedial actions, or both are necessary at the site or facility, and allow an interim or remedial action option to be selected that complies with applicable tribal environmental laws.

General

Responsible parties shall conduct a site investigation that meets the requirements of this ordinance for discharges of petroleum products from petroleum storage tanks, when site-specific or facility-specific information indicates that soil, sediment, groundwater, surface water, air or other environmental media at a site or facility may

Site Investigation Work Plan

Responsible parties shall submit a work plan to the Tribal Natural Resource Department describing the intended scope and conduct of a field investigation if the site or facility is classified as complex or if the responsible party chooses to proceed with a complex site process. The work plan shall include all of the following information:

1. Site name, address, and location
2. Name and address of the responsible party or parties, and the name and address of all consultants or contractors involved in the response action
3. Site location map, consisting of the applicable portion of a 1:24,000-scale topographic quadrangle published by United States geological survey with the name of the quadrangle indicated
4. Information gathered during scoping of the project

STANDARDS FOR SELECTING REMEDIAL ACTIONS |

Purpose

Establish minimum standards for identifying and evaluating remedial action options and selecting remedial actions not included in immediate or interim actions, applied to all actions taken by responsible parties at sites, facilities or portions of a site or facility.

General

Responsible parties shall select a remedy or combination of remedies by identifying, evaluating, and documenting an appropriate range of remedial action options to address each contaminated medium. Each remedial action option to address each medium and migration or exposure pathway shall be based on the complexity of the site or facility.

Identification and Evaluation of Remedial Action Options

An initial screening of remedial technologies shall be conducted to identify

Contaminated Site Investigation and Remediation Process

Site Investigation

Characterize the nature and degree of contamination
Delineate degree and extent (horizontal and vertical, all media)
Identify and Evaluate All Receptors
Conceptual Site Model

Interim Action (completed during investigation)

Source Removal and/or Source Soil Removal

Evaluate Complete Site Investigation

Characterize the nature and degree of contamination?
Delineate degree and extent (horizontal and vertical, all media)?
Identify and Evaluate All Receptors?
Conceptual Site Model Makes Sense?

Approved Complete Site Investigation

Evaluate Remedial Alternatives

Possible Method: Remedial Alternatives Report

Choose Remedial Alternative

Remedial Action Plan

Implement Remedial Action Plan/ Corrective Actions

Evaluate Remediation

Return Site back to Reuse

Required Plan to Investigate Degree and Extent of Contamination



LAC DU FLAMBEAU BAND
OF LAKE SUPERIOR
CHIPPEWA INDIANS
TRIBAL NATURAL RESOURCE DEPARTMENT

P.O. BOX 67
2500 HWY. 47 NORTH

LAC DU FLAMBEAU, WISCONSIN 54538

(715) 588-4213
FAX# (715) 588-3207

Fish Culture - Fisheries Management - Wildlife Management - Water Resources - Environmental Protection - Conservation Law - Energy -

September 10, 2015

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Urgent Legal Matter

William and Linda Kozak
8760 W SQUAW LAKE RD
LAC DU FLAMBEAU WI 54538

Re: TNR Site # 4-2015
14267 W State Highway 70, Lac du Flambeau
Notice of PLP and Investigation Requirements

Dear Mr. and Mrs. Kozak,

The Lac du Flambeau Tribal Natural Resource Department has determined that William and Linda Kozak are "Potentially Liable Person" for the releases of hazardous substances at the Site pursuant to Tribal Law.

You received notice on June 3rd, 2015 that the Department had credible evidence to support a finding of "Potentially Liable Person" for the release of hazardous substances originating from your property located at 14267 W State Highway 70. The notice also provided you the opportunity to provide written comment on the accuracy of credible evidence put forth and your PLP status. The Department did receive two phone calls on June 3rd and June 4th in which you provided a name of your consultant, Dave Larson, of REL. The Department also invited you to a meeting, which was declined.

As the PLP, you are required to investigate the degree and extent of hazardous substance contamination and remediate to Tribal Cleanup standards. The Department expects a Plan to Investigate the degree and extent of contamination within 60 days. We understand you are working with the State of Wisconsin PECFA program. The Department will consider work



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

OCT 13 2015

CERTIFIED MAIL # 7001 0320 0006 0184 8567
RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:

William and Linda Kozak
8760 West Squaw Lake Road
Lac du Flambeau, Wisconsin 54538

Re: Corrective Action Notice

Dear Mr. and Mrs. Kozak:

The U.S. Environmental Protection Agency hereby notifies you that corrective actions must be taken to address the contamination from leaking underground storage tanks (USTs) associated with the Tower Standard site located at 14267 State Highway 70 West in Lac du Flambeau, Wisconsin. As the owner or operator of the site you are responsible for corrective action under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6991 et seq., and the federal regulations for release response and corrective action found in 40 C.F.R. Part 280, subpart F.

Pursuant to this Corrective Action Notice, you must conduct a site assessment as required under 40 C.F.R. §§ 280.63 and 280.65 in order to determine the full extent of soil and groundwater contamination at the site. You must also submit a corrective action plan as required under 40 C.F.R. § 280.66 to complete remediation of the petroleum contamination.

December 3, 2015

William and Linda Kozak
8760 W SQUAW LAKE RD
LAC DU FLAMBEAU WI 54538

Re: TNR Site # 4-2015
14267 W State Highway 70, Lac du Flambeau
Notification of Unmet Requirements
Site Investigation Workplan

Dear Mr. and Mrs. Kozak,

This letter serves as notification that you have not met the requirement to submit a plan to investigate the degree and extent of contamination. This letter also provides a summary of recent Site Activities, and notifies you of the current investigation of your Contractor for discharging contaminated water into Haskell Lake.

You previously received notice that the Tribal Natural Resource Department has determined that William and Linda Kozak are "Potentially Liable Person" for the releases of hazardous substances at your property pursuant to Tribal Law in a letter dated September 10, 2015. As the identified PLP, you are required to investigate the degree and extent of hazardous substance contamination and remediate to Tribal Cleanup Standards. A requirement of the September 10, 2015 notice was submittal of a Plan to Investigate the Degree and Extent of contamination within 60 days.

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Resolution 265 (15) – Federal Obligation and Action

RESOLUTION NO. 265(15)

- WHEREAS,** the Lac du Flambeau Band of Lake Superior Chippewa Indians ("Tribe"), is a federally recognized Indian tribe organized pursuant to Section 16 of the Indian Reorganization Act of June 18, 1934, 25 U.S.C. §461 et. seq.; and
- WHEREAS,** pursuant to Article III, Section 1 of the Lac du Flambeau Constitution ("Constitution"), the governing body of the Tribe is the Tribal Council; and
- WHEREAS,** the Lac du Flambeau Band of Lake Superior Chippewa Indians has a strong interest in protecting the natural resources of the Lac du Flambeau Reservation; and
- WHEREAS,** groundwater contaminated with petroleum including benzene, ethylbenzene, naphthalene, toluene, and xylene has been identified adjacent to Haskell Lake significantly above Tribal Approved groundwater standards; and
- WHEREAS,** the identified groundwater contamination has damaged reservation resources; and
- WHEREAS,** the Tribal Hazardous Substance Code requires cleanup to Tribal soil and groundwater standards; and
- WHEREAS,** The United States has a unique legal and political relationship with Indian tribes as provided by the Constitution of the United States, treaties, court decisions and Federal statutes; now, therefore be it
- RESOLVED,** by this Council, in Special Session assembled, hereby approves that there is a federal obligation to health and welfare of the reservation and the Tribe will not waive sovereignty in protection of natural resources. The Tribe expects federal action to fulfill these obligations.

CERTIFICATION

I, the undersigned, as Secretary of the Lac du Flambeau Band of Lake Superior Chippewa Indians, a tribal government operating under a Constitution adopted pursuant to Section 16 of the Indian Reorganization Act, 25 U.S.C. § 476, do hereby certify that the Tribal Council of the

Tribal Leveraged Resource and Federal Partners

Completed Work

- **EPA** 2011 – TBA work discovered contamination
- **BIA** 2013/2014 - Groundwater Contamination Substantiation Project- Tribal Initiated Groundwater Investigation- Weston VAS Work
- **EPA Superfund/ ATSDR** 2015- Emergency Response Vapor Intrusion Work and Sampling
- **Tribe** 2015 - Haskell Lake Water Quality Monitoring

Planned Work

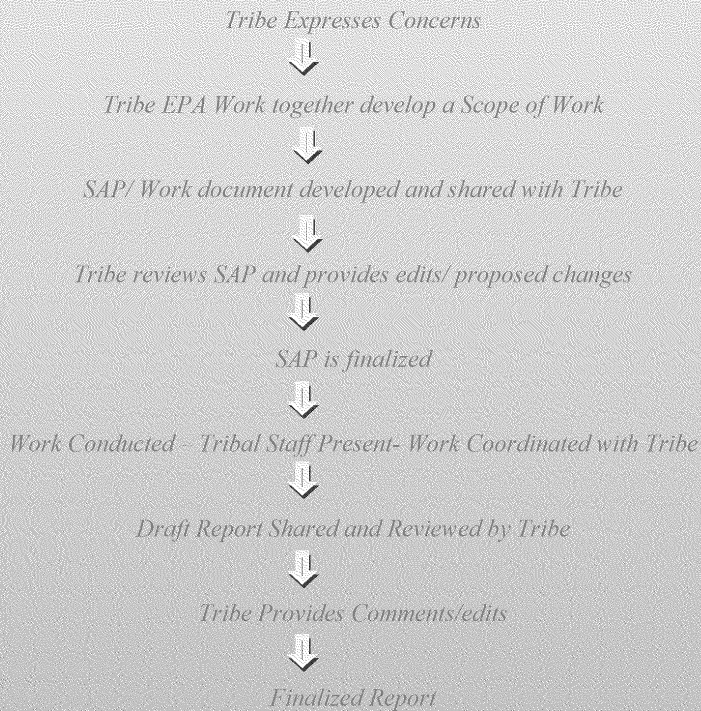
- **BIA** 2015/2016 -Partial Funding of Interim Action- 70k toward Cooperative Source Removal Effort
- **USGS** 2016 - Haskell Lake Pore Water Characterization Project
- **Tribe** 2016 - Haskell Lake Water Quality Monitoring

Offered Resources

- **USFWS** Ecological Assessment and Restoration Technical Review and Assistance

Tribal Participation in EPA Initiated Scope of Work, Sampling Plans, and Access to Project Documents- Proposed Model Status

Participation in Scope, SAP, and Access to Project Documents



EPA Site Investigation Planning and Activities

August 28 Task Order: Includes a reasonable and agreed initial site investigation plan

- Site Investigation Work Plan
- Private Well Sampling Plan
- QAPP
- Site Investigation Report
- 15 soil borings to 20 feet
- 12 monitoring wells (4 locations at 3 depths)
- Slug tests
- 2 rounds of low flow groundwater sampling

February 16 Task Order

- 15 borings to 15 feet
- 1 round groundwater sampling from 4 wells
- Vapor intrusion sampling
- Fly contractor for meeting
- Review Reports and Draft Figures

March Activities

- 6 borings
- Vapor Intrusion Sampling at the Bait Shop
- Bristol Meets with TNR Staff in LDF
- Lab Analytical Reports and field summary provided in April- No Data Evaluation of Results



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Work Needed

- Existing Data Evaluated by EPA or Tribal Contractors-
without evaluation of existing data future scopes of work are developed without the benefit of evaluated results (example lost opportunity for evolved site work planning)
- Site Investigation Work Plan- This was included in the 8/24/2015 Task Order
- Implement Site Investigation Work Plan including a Monitoring Well Network
- Monitoring Well Network Installation (State installed 4 of the 12 wells agreed in 1st iteration of Site Investigation- remaining 8 still needed)
- Federal or Tribal Sampling of all wells with QAPP and appropriate method-min once/ year
- Interim Action Evaluation
- Interim Action Plan-
- Implement Interim Action – Cooperative Effort (70k secured for excavation and hauling)
cooperation needed for planning, implementation, and disposal)
- Site Investigation Report
- Remedial Alternative Evaluation

Discovered Limitations of State Initiated Investigation Activities

- Data Quality QA/QC (current and historical)

Historical Example

- QA/QC error misleads site decision

WDNR ManKendall Analysis for closure decision

Lab result and Tables do not match Mann Kenall data entry- resulting in stable trend

Current Example

- Boring Log does not correlate with sample

BH22A is logged as a 5 ft dry borehole

Water Summery Table lists a groundwater sample collected from the dry 22A-

The most contaminated sample of the geoprobe sampling effort

Table 3
Summary of Groundwater Analytical Results
Geoprobe Event
Tower Standard
Lac du Flambeau, Wisconsin

	Sample Location-->			BH-17	BH-22A	BH-25 @ 27'	BH-26 @ 27'	BH-30 @25'	BH-35E
			Date ->						
VOC Parameters									
Benzene	5	0.5	µg/l	115	10,500	< 0.40	133	< 0.40	< 0.40
Toluene	800	180	µg/l	9,650	47,500	< 0.39	451	< 0.39	< 0.39
Ethylbenzene	700	140	µg/l	2,150	4,080	< 0.39	301	18.4	6.1
Xylenes (mixed isomers)	2,000	400	µg/l	9,520	21,360	< 0.80	1,156	14.0	16.4
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 24.2	< 121	< 0.48	2.9 ^j	< 0.48	< 0.48
Trimethylbenzenes (mixed isomers)	480	96	µg/l	2,900	4,163	< 0.42	473	21.9	120.2
Naphthalene	100	10	µg/l	532	927	< 0.42	76.4	5.6	6.5

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Discovered Limitations of State Initiated Investigation Activities

- **Peristaltic Pump Low Flow Sampling Not consistent with EPA guidance and Tribal requirements**



Discovered Limitations of State Initiated Investigation Activities

- **Tribe No Longer Able to Complete Onsite Presence and Verification Oversight**

Example

Contractor intentionally chooses unavailable times to schedule field work

- **The Presence of State Involvement Appears to be limiting or preventing EPA initiated work**

Example

Most of August Task Order not implemented
site investigation work plan
remaining 8 monitoring wells
slug tests
2 rounds of groundwater sampling



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